

NOZZLE INSERT FOR LONG FIBER COM- POUNDING

Abstract

A new die insert for an extrusion machine and a method of using the invention that includes a continuous strand of fiber reinforcing material to be statically drawn directly to the center of the molten flow of polymer base matrix is provided. The insert is placed in line with the discharge end of an injection molding apparatus. A molten flow of polymer base matrix proceeds in a straight linear fashion through the die. A fiber feed tube is centered on the interior of the die. As the polymer flows past the feed tube the molten polymer draws a continuous strand of fiber reinforcing into the center of the flow. The polymer is then extruded and cooled and the extrusion is further pelletized to produce injection molding feed stock material having continuous fiber reinforcing. The result provides a continuous extrusion process that allows the formation of a continuous fiber-reinforced product employing brittle fibers in one-step process.